Mimic In-House Article
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Monitoring Optimisation

ME430 Three-Phase Multi-Meter

MQ21 Event Recorder & Power Quality Analyser

ME131 Multi-Circuit Smart Energy Meter

Understanding electrical use is essential for controlling costs, improving efficiency and protecting sensitive equipment. Three advanced monitoring devices; the ME430 Three-Phase Multifunction Intelligent Meter, the MQ21 Event Recorder and Power Quality Analyser, and the ME131 Multi-Circuit Smart Energy Meter, each provide valuable information to help engineers and facility managers make informed energy decisions.

The ME430 measures important electrical values, including voltage, current, power, energy consumption, power factor and harmonics. It supports three-phase, three-wire and three-phase, four-wire systems. Compatible Rogowski coils and voltage-output current transformers allow current measurement without dismantling existing wiring, depending on the model. With RS485 and Ethernet connectivity, it can send readings to energy monitoring systems. For example, a factory can use the ME430 to monitor a large motor production and investigate changes in its electrical consumption.

The MQ21 focuses on monitoring electrical conditions and recording power-quality events such as voltage dips and surges. It stores detailed waveform data, helping engineers investigate disturbances that may affect sensitive equipment. It supports single-phase and three-phase systems, with RS485, Ethernet, 16 GB Micro SD storage and optional 4G connectivity. For example, a solar-powered facility can use the MQ21 to record voltage disturbances that coincide with an inverter shutdown. The recorded information helps engineers investigate the cause, although the device does not automatically correct the problem.

The ME131 is designed for monitoring multiple electrical circuits from one central location. Its master-submeter arrangement supports up to 32 circuits, using compatible current sensors and RS485 communication with Modbus-RTU. In a shopping centre, it can help compare electricity consumption across lighting, air-conditioning and individual retail areas.

When implemented together in a factory setting, these three devices create a powerful monitoring ecosystem: the ME430 monitors the main three-phase supply, the MQ21 records power-quality events affecting production equipment, and the ME131 tracks consumption across individual circuits. Combined, these devices deliver a complete, high-definition picture of a facility's electrical performance, empowering engineers to quickly identify issues, investigate unusual usage trends, and plan practical, cost-saving improvements.

Contact us for more information on monitoring devices.

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